17. A glass substrate for a flat panel liquid-crystal display, such as for a laptop computer, the flat panel liquid-crystal display including a twisted nematic display, a supertwisted nematic display, an active matrix liquid-crystal display, a thin film transistor display, and a plasma addressed liquid-crystal display, said substrate comprising:

an alkali-free aluminoborosilicate glass;

said glass having a coefficient of thermal expansion $\alpha_{20/300}$ of between 2.8 x 10^{-6}/K and 3.8 x 10^{-6}/K;

said glass having the composition (in % by weight, based on oxide):

SiO_2	> 58 - 64.5
B_2O_3	> 6 - 10.5
Al_2O_3	> 18 - 24
MgO	0 - < 3
CaO	1 - < 8
SrO	0.1 - 1.5
BaO	> 5 - 8
with SrO + BaO	< 8.5
with MgO + CaO + SrO + BaO	8 - 18
ZnO	0.1 - < 2;

said glass being configured to be resistant to thermal shock;

said glass being configured to have a high transparency over a broad spectral range in the visible and ultra violet ranges; and

said glass being configured to be free of bubbles, knots, inclusions, streaks, and surface undulations.

20. A glass comprising:

a substantially alkali-free aluminoborosilicate glass;

said glass having a coefficient of thermal expansion $\alpha_{20/300}$ of between 2.8 x 10^{-6}/K and 3.8 x 10^{-6}/K;

said glass having the composition (in % by weight, based on oxide):

SiO_2	> 58 - 65
B_2O_3	> 6 - 10.5
Al_2O_3	> 14 - 25
MgO	0 - < 3
CaO	0 - 9
SrO	0.1 - 1.5
BaO	> 5 - 8.5
with SrO + BaO	≤ 8.6
with MgO + CaO + SrO + BaO	8 - 18
ZnO	0.1 - < 2.

34. The glass substrate according to Claim 17, wherein:

said glass substrate comprises a glass having a content of at least 0.1% by weight of ZnO.

35. The glass substrate according to Claim 34, wherein:

said glass substrate comprises a glass having a glass transition temperature, T_g, of more than 700 degrees Celsius to maximize heat resistance of said glass substrate.

36. The glass substrate according to Claim 35, wherein:

said glass substrate comprises a glass having (i.) and (ii.),

wherein (i.) and (ii.) are:

(i.) a processing temperature, V_A, of at most 1350 degrees Celsius at a viscosity of 10^4 dPas; and

(ii.) a temperature of at most 1720 degrees Celsius at a viscosity of 10^2 dPas.

37. The glass substrate according to Claim 36, wherein:

said glass substrate comprises a glass having a content of more than 8% by weight of B_2O_3.

38. The glass substrate according to Claim 37, wherein:

said glass substrate comprises a glass having a content of one of: at least 18% by weight of Al_2O_3, more than 18% by weight of Al_2O_3, at least 20.5% by weight of Al_2O_3, and at least 21.5% by weight of Al_2O_3.

39. The glass substrate according to Claim 38, wherein:

said glass substrate comprises a glass containing additionally (in % by weight):

ZrO_2	0 - 2
TiO_2	0 - 2
with $ZrO_2 + TiO_2$	0 - 2
As_2O_3	0 - 1.5
Sb_2O_3	0 - 1.5
SnO_2	0 - 1.5
CeO_2	0 - 1.5
Cl^-	0 - 1.5

F^-	0 - 1.5
SO_4^{2-}	0 - 1.5

with $As_2O_3 + Sb_2O_3 + SnO_2 + CeO_2 + Cl^- + F^- + SO_4^{2-} \leq 1.5$.

40. The glass substrate according to Claim 39, wherein:

said glass substrate comprises a glass in which arsenic oxide, antimony oxide, and inherent impurities are minimized.

41. The glass substrate according to Claim 17, comprising at least one of (a.), (b.), (c.), (d.), (e.), (f.), (g.), (h.), and (i.), wherein (a.), (b.), (c.), (d.), (e.), (f.), (g.), (h.), and (i.) comprise:

(a.) a glass transition temperature, T_g, of more than 700 degrees Celsius to maximize heat resistance of said glass substrate;

(b.) a glass having (i.) and (ii.), wherein (i.) and (ii.) are:

(i.) a processing temperature, V_A, of at most 1350 degrees Celsius at a viscosity of 10^4 dPas; and

(ii.) a temperature of at most 1720 degrees Celsius at a viscosity of 10^2 dPas;

(c.) more than 8% by weight of B_2O_3;

(d.) one of: at least 18% by weight of Al_2O_3, more than 18% by weight of Al_2O_3, at least 20.5% by weight of Al_2O_3, and at least 21.5% by weight of Al_2O_3;

(e.) at least 0.1% by weight of ZnO;

(f.) additionally (in % by weight):

ZrO_2	0 - 2
TiO_2	0 - 2

with ZrO_2 + TiO_2	0 - 2
As_2O_3	0 - 1.5
Sb_2O_3	0 - 1.5
SnO_2	0 - 1.5
CeO_2	0 - 1.5
Cl^-	0 - 1.5
F^-	0 - 1.5
SO_4^{2-}	0 - 1.5

with As_2O_3 + Sb_2O_3 + SnO_2 + CeO_2 + Cl^- + F^- + SO_4^{2-} $\leq$ 1.5;

(g.) a glass in which arsenic oxide, antimony oxide, and inherent impurities are minimized;

(h.) a float glass; and

(i.) one of (I.) and (II.):

(I.) a coefficient of thermal expansion $\alpha_{20/300}$ of from 2.8 x 10^{-6}/K to 3.6 x 10^{-6}/K; and

(II.) a density, ρ, of < 2.600 g/cm^3.

42. The glass according to Claim 20, wherein:

said glass comprises at least 0.1% by weight of ZnO.

43. The glass according to Claim 42, wherein:

said glass has a glass transition temperature, T_g, of > 700°C to maximize heat resistance of said glass.

44. The glass according to Claim 43, wherein:

said glass has (i.) and (ii.), wherein (i.) and (ii.) are:

(i.) a processing temperature, V_A, of ≤1350°C at 10^4 dPas; and

(ii.) a temperature of ≤1720°C at 10^2 dPas.

45. The glass according to Claim 44, wherein:

said glass is configured to be resistant to thermal shock;

said glass is configured to have a high transparency over a broad spectral range in the visible and ultra violet ranges; and

said glass is configured to be free of bubbles, knots, inclusions, streaks, and surface undulations.

46. The glass according to Claim 45, wherein:

said glass comprises more than 8% by weight of B_2O_3.

47. The glass according to Claim 46, wherein:

said glass comprises one of (i.), (ii.), (iii.), and (iv.):

(i.) at least 18% by weight of Al_2O_3;

(ii.) more than 18% by weight of Al_2O_3;

(iii.) at least 20.5% by weight of Al_2O_3., and

(iv.) at least 21.5% by weight of Al_2O_3.

48. The glass according to Claim 47, wherein:

said glass additionally comprises (in % by weight):

ZrO_2	0 - 2
TiO_2	0 - 2
with $ZrO_2 + TiO_2$	0 - 2
As_2O_3	0 - 1.5

Sb_2O_3	0 - 1.5
SnO_2	0 - 1.5
CeO_2	0 - 1.5
Cl^-	0 - 1.5
F^-	0 - 1.5
SO_4^{2-}	0 - 1.5; and

with $As_2O_3 + Sb_2O_3 + SnO_2 + CeO_2 + Cl^- + F^- + SO_4^{2-} \leq 1.5$.

49. The glass according to Claim 48, wherein:

said glass comprises a glass in which arsenic oxide, antimony oxide, and inherent impurities are minimized.

50. The glass according to Claim 49, wherein:

said glass comprises a float glass.

51. The glass according to Claim 20, comprising at least one of (a.), (b.), (c.), (d.), (e.), (f.), (g.), (h.), and (i.), wherein (a.), (b.), (c.), (d.), (e.), (f.), (g.), (h.), and (i.) comprise:

(a.) a glass transition temperature T_g of > 700°C to maximize heat resistance of said glass;

(b.) a glass having (i.) and (ii.), wherein (i.) and (ii.) are:

(i.) a processing temperature, V_A, of ≤1350°C at 10^4 dPas; and

(ii.) a temperature of ≤1720°C at 10^2 dPas

(c.) more than 8% by weight of B_2O_3;

(d.) one of: at least 18% by weight of Al_2O_3, more than 18% by

weight of Al_2O_3, at least 20.5% by weight of Al_2O_3, and at least 21.5% by weight of Al_2O_3;

(e.) at least 0.1% by weight of ZnO;

(f.) additionally (in % by weight):

ZrO_2	0 - 2
TiO_2	0 - 2
with $ZrO_2 + TiO_2$	0 - 2
As_2O_3	0 - 1.5
Sb_2O_3	0 - 1.5
SnO_2	0 - 1.5
CeO_2	0 - 1.5
Cl^-	0 - 1.5
F^-	0 - 1.5
SO_4^{2-}	0 - 1.5

with $As_2O_3 + Sb_2O_3 + SnO_2 + CeO_2 + Cl^- + F^- + SO_4^{2-} \leq 1.5$;

(g.) a glass in which arsenic oxide, antimony oxide, and inherent impurities are minimized;

(h.) a float glass; and

(i.) one of (I.) and (II.):

(I.) a coefficient of thermal expansion $\alpha_{20/300}$ of from 2.8 x 10^{-6}/K to 3.6 x 10^{-6}/K; and

(II.) a density, ρ, of < 2.600 g/cm^3. --

REMARKS

The Office Action dated December 19, 2002 has been reviewed in detail and the application has been amended in the sincere effort